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1 TITLE: PEACH TREE

NAMED: 'KLAMATH'

2 NAMES AND ADDRESSES OF INVENTORS:

3 GARY NEIL ZAIGER

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5 LEITH MARIE GARDNER

6 1207 Grimes Avenue, Modesto, California 95358

7 GRANT GENE ZAIGER

8 4005 California Avenue, Modesto, California 95358

9 CITIZENSHIP: All inventors are citizens of the United States
10 of America.

11 BACKGROUND OF THE VARIETY:

12 FIELD OF THE INVENTION

13 In the field of plant genetics, we conduct an extensive
14 and continuing plant-breeding program including the
15 organization and asexual reproduction of orchard trees, and
16 of which plums, peaches, nectarines, apricots, cherries and
17 interspecifics are exemplary. It was against this background
18 of our activities that the present variety of peach tree was
19 originated and asexually reproduced by us in our experimental
20 orchard located near Modesto, Stanislaus County, California.

21 PRIOR VARIETIES: Among the existing varieties of peach and
22 nectarine trees, which are known to us, and mentioned herein,
23 'Carolyn' Peach (non-patented), 'Loadel' Peach (non-
24 patented), 'Andross' Peach (non-patented) and 'Royal Giant'
25 Nectarine (U.S. Plant Patent #4107).

26 STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND
27 DEVELOPMENT: Not applicable.
28

1 ORIGIN OF THE VARIETY: The new and distinct variety of peach
2 tree (*Prunus persica*) was developed by us in our experimental
3 orchard located near Modesto, California, as a first
4 generation seedling from seed of a cross between proprietary
5 lines of immediate parents with field identification numbers
6 8EB258 and 40GC250. The maternal parent (8EB258) originated
7 from a first generation cross between 'Carolyn' Peach (non-
8 patented) and 'Loadel' Peach (non-patented). The paternal
9 parent (40GC250) originated from a cross between 'Royal
10 Giant' Nectarine (U.S. Plant Patent #4107) and a canning
11 cling peach of unknown parentage. We planted and maintained
12 under close and careful observation, a large number of these
13 first generation seedlings on their own root system, during
14 which time we recognized the desirable tree and fruit
15 characteristics of the present variety and selected it in
16 1989 for asexual propagation and commercialization.

17
18 ASEXUAL REPRODUCTION OF THE VARIETY: Asexual reproduction of
19 the new and distinct variety of peach tree was by budding to
20 'Nemaguard' Rootstock (non-patented), as performed by us in
21 our experimental orchard located near Modesto, California,
22 and shows that reproductions run true to the original tree
23 and all characteristics of the tree and its fruit are
24 established and transmitted through succeeding asexual
25 propagations.

26
27 SUMMARY OF THE NEW VARIETY: The new variety of peach tree is
28 of large size, vigorous, upright growth and a regular and

1 productive bearer of large size, non-melting, yellow flesh,
2 clingstone fruit with very firm flesh, good handling and
3 shipping quality. The fruit is further characterized by
4 maturing relatively uniform throughout the tree, and
5 maintaining excellent shape, texture, color and appearance
6 after being canned. In comparison to 'Andross' Peach (non-
7 patented), the tree of the new variety has more vigor,
8 heavier production of firmer, non-melting, yellow flesh fruit
9 with greater resistance to bruising and browning, and is 1 to
10 2 days earlier in maturity. The fruit after canning has less
11 internal breakdown, is firmer with a more attractive
12 appearance.

13
14 PHOTOGRAPH OF THE VARIETY: The accompanying color
15 photographic illustration shows typical specimens of the
16 foliage and fruit of the present new peach variety. The
17 illustration shows the upper and lower surface of the leaves,
18 an exterior and sectional view of a fruit divided in its
19 suture plane to show flesh color, pit cavity and the stone
20 remaining in place. The photographic illustration was taken
21 shortly after being picked (shipping ripe) and the colors are
22 as nearly true as is reasonably possible in a color
23 representation of this type.

24
25 DESCRIPTION OF THE VARIETY: The following is a detailed
26 botanical description of the new variety of peach tree, its
27 flowers, foliage and fruit, as based on observations of 7
28

1 year old specimens grown near Modesto, California, with color
2 in accordance with Munsell Book of Color.

3 TREE

4 Size:

5 Large.
6 Pruned to 3 to 3.5 meters in
7 height at maturity for
8 economical harvesting of
9 fruit.

10 Vigor:

11 Vigorous.
12 Growth of 1.5 to 2 meters the
13 first growing season.
14 Varies with soil fertility,
15 climatic conditions and
16 cultural practices.

17 Form:

18 Upright, usually pruned to vase
19 shape.

20 Branching Habit:

21 Upright.
22 Crotch angle approximately 30°.
23 Heavy fruit production
24 increases crotch angle.

25 Productivity:

26 Productive, thinning and
27 spacing of fruit necessary
28 to develop desired
marketable size.

Bearer:

Regular, has had adequate fruit
set for 5 consecutive years.
No alternate bearing observed.

Fertility:

Self fertile.

Density:

Medium dense.
Usually pruned to vase shape to
increase sunlight and air
movement to center of tree.

Hardiness:

Hardy in all fruit growing
areas of California.

Approximate winter chilling
requirement 800 hours at or
below 45°F.

TRUNK

Size:

Large, stocky.
Average circumference 46.8 cm
measured 31.2 cm above
ground.

Texture:

Medium shaggy, roughness
increases with age.

Color:

Varies from 2.5Y 6/2 to 2.5Y
5/2, darkens with age.

BRANCHES

Size:

Medium.
Average circumference 18.2 cm
at 1.3 meters above ground.

Surface Texture:

New growth smooth, mature
growth medium rough.

Lenticels:

Average number of 22 in a 25.8
square cm section.
Average length 3.3 mm.
Average width 1.5 mm.
Color varies from 5YR 6/8 to
7.5YR 5/8.

Color:

Varies from 5Y 6/10 on new
growth to 5YR 4/8 on mature
growth.

LEAVES

Size:

Large.
Average length 136.0 mm.
Average width 37.3 mm.

Form:

Lanceolate.

1
2 Apex: Acuminate.
3
4 Base: Cuneate.
5
6 Margin: Crenate.
7
8 Thickness: Medium.
9
10 Surface Texture:
11 Upper surface relatively
12 smooth, slight indentations
13 over midrib and leaf veins,
14 glabrous.
15 Lower surface relatively smooth
16 with small ridges created by
17 midrib and pinnate venation,
18 glabrous.
19
20 Petiole:
21 Medium size.
22 Average length 9.7 mm.
23 Average width 1.5 mm.
24 Longitudinally grooved.
25 Color 2.5GY 7/8.
26
27 Glands:
28 Reniform.
Medium to large size.
Average length 1.0 mm.
Average width 0.6mm.
Average number 2, varies from 1
to 3.
Primarily located on upper
portion of petiole and base
of leaf blade.
Color varies from 2.5Y 6/6 to
2.5YR 6/6 on upper surface
of glands.
Color:
Upper surface varies from 2.5GY
4/4 to 5GY 5/4.
Lower surface varies from 2.5GY
6/4 to 5GY 7/6.
Midvein color 2.5GY 8/6.

27 FLOWER BUDS

28 Size:
Medium, non-showy.
Average length 12.6 mm.

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Average diameter 6.6 mm.

Hardiness:

Hardy in all stone fruit
growing areas of California.

Form:

Plump, conical, becoming
oblongated before opening.

Pedice:

Average length 4.2 mm.
Average width 2.0 mm.
Color 2.5GY 7/8.

Color:

Varies from 5RP 6/10 to 5RP
6/12.

FLOWERS

Size:

Medium, non-showy.
Average height 16.9 mm.
Average diameter 20.0 mm.

Petals:

Number - 5, alternately
arranged to sepals.
Shape - oblanceolate.
Average length 11.8 mm.
Average width 6.2 mm.
Margin - entire.
Color varies from 5RP 6/12 to
5RP 8/6, the outer surface
of the petals darken in
color.

Sepals:

Number - 5, alternately
arranged to petals.
Shape - triangular, apex
rounded.
Average length 4.0 mm.
Average width 3.7 mm.
Color - upper surface 10Y 5/6,
glabrous, lower surface
7.5RP 3/8, pubescent.

Stamens:

Average number per flower 43.
Average filament length 12.4
mm.

Filament color N 9.5/ when
flower first opens, becoming
2.5RP 6/10 as flower ages.
Color of anthers 6.25R 3/12.

Pollen:
Self fertile.
Color - 2.5Y 8/8.

Pistil:
Normally 1, varies from 1 to 2.
Average length 14.7 mm.
Surface - pubescent.
Color 2.5GY 9/6.
Stigma approximately 2.4 mm
above anthers.

Fragrance:
Slight.

Blooming Period:
Date of First Bloom
March 5, 2003.
Date of Petal Fall
March 14, 2003.
Varies slightly with climatic
conditions.

Color:
Varies from 5RP 8/2 to 5RP 6/2,
outer edges of petals much
darker in color than center
of petals.

Number Flowers per Flower Bud:
One.

Pedicel:
Average length 4.4 mm.
Average width 2.2 mm.
Color 2.5GY 7/6.

FRUIT

Maturity When Described:
Firm ripe.

Date of First Picking:
August 1, 2003.

Date of Last Picking:
August 6, 2003.
Varies slightly with climatic
conditions.

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Size:

Large.
Average diameter axially 77.5 mm.
Average transversely in suture plane 84.1 mm.
Average weight 311.7 grams, average weight varies slightly with fertility of the soil, amount of thinning and climatic conditions.

Form:

Globose.

Suture:

Nearly smooth, extends from base to apex.

Ventral Surface:

Very slightly lipped.

Apex:

Varies from rounded to slight tip.

Base:

Retuse.

Cavity:

Rounded to slightly elongated in suture plane.
Average depth 6.1 mm.
Average breadth 11.6 mm.

STEM

Size:

Medium.
Average length 7.1 mm.
Average diameter 3.6 mm.

Color:

10Y 7/6.

FLESH

Ripens:

Evenly.

Texture:

Firm, non-melting.

Fibers: Few, small, tender.

Firmness: Firm flesh, higher degree of firmness compared to the standard canning peach 'Andross' (non-patented).

Aroma: Slight.

Amydgalin: Undetected.

Eating Quality: Good fresh, very good canned.

Flavor: Good, comparable to other standard non-melting canning peach varieties.

Juice: Moderate.

Brix: Average 13.7°, varies slightly with amount of fruit per tree and climatic conditions.

Color: Varies from 2.5Y 8/10 to 2.5Y 8.5/10.
Pit cavity 2.5Y 8/8.
No bleeding from pit cavity into flesh.

SKIN

Thickness: Medium.

Surface: Smooth.

Down: Moderate amount and length.

Tendency to Crack: None.

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Color:

Ground color varies from 2.5Y 8/10 to 2.5Y 8.5/10. Very slight blush 7.5R 4/10 to 7.5R 4/12 on 1 to 5% of skin surface.

Tenacity:

Tenacious to the flesh.

Astringency:

None.

STONE

Type:

Clingstone.

Size:

Large.
Average length 40.4 mm.
Average width 30.2 mm.
Average thickness 24.0 mm.

Form:

Ovoid.

Base:

Straight.

Apex:

Pointed.
Average length 2.1 mm.

Surface:

Irregularly furrowed toward the apex, pitted throughout with deeper pits toward base. Pits vary from rounded to elongated. Usually one long furrow on each side of suture.

Sides:

Unequal, with one side extending further from suture plane.

Ridges:

Relatively wide and slightly rough.

Tendency to Split:

None.

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Color: Varies from 5YR 5/6 to 5YR 3/6 when dry.

KERNAL

Form: Ovate.

Taste: Bitter.

Viability: Viable, embryo completely developed.

Size: Large.
Average length 20.2 mm.
Average width 13.6 mm.
Average thickness 6.4 mm.

Skin: Color - 5Y 9/6 when dry.

USE

Canning.

KEEPING QUALITY

Good, held firm in cold storage 3 weeks at 38° to 42°F with minimal loss of firmness or internal flesh breakdown.

SHIPPING QUALITY

Good, minimal skin scarring or bruising of flesh during picking and shipping trials.

PLANT/FRUIT DISEASE RESISTANCE/SUSCEPTIBILITY

No specific testing for relative plant/fruit disease resistance/susceptibility has been designed. Under close observation during planting, growing, and harvesting of fruit, under normal cultural and growing conditions near Modesto, California, no particular plant/fruit disease

1 resistance or susceptibility
2 has been observed. Any
3 variety or selection
4 observed during indexing of
5 plant characteristics with
6 abnormal fungus, bacterial,
7 virus or insect
8 susceptibility is destroyed
9 and eliminated from our
10 breeding program.

11 The present new variety of peach tree, its flowers,
12 foliage and fruit herein described may vary in slight detail
13 due to climate, soil conditions and cultural practices under
14 which the variety may be grown. The present description is
15 that of the variety grown under the ecological conditions
16 prevailing near Modesto, California.
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